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ABSTRACT

The development of a comprehensive set of instructor training materials for competency based vocational education is described. These validated modules and supportive materials are on the following topics: 1) program planning, development, and evaluation; 2) instructional planning; 3) instructional execution; 4) instructional evaluation; 5) instructional management; 6) guidance; 7) school-community relations; 8) student vocational organizations; 9) professional role and development; and 10) coordination of cooperative education. These materials were developed by the National Center for Research in Vocational Education based at Ohio State University. (JD)

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DEVELOPMENT OF PERFORMANCE-BASED TEACHER EDUCATION (PBTE) MATERIALS FOR THE TRAINING OF INSTRUCTORS

Background Paper

Prepared for the

International Labor Organization Asian Regional Workshop

on Training Materials Development and Exchange

Bangkok, Thailand

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U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

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OVERVIEW

This background paper on the "Development of Performance-Based Teacher Education (PBTE) Materials for the Training of Instructors" will describe the experiences of the National Center for Research in Vocational Education (hereinafter referred to as the National Center) in developing a comprehensive set of instructor[1] training materials. The paper is organized on the basis of the following six major questions:

1. What is PBTE?
2. Why PBTE?
3. What materials were developed?
4. How were the materials developed?
5. How are the materials being used?
5. What results have been obtained?

While these questions do not address all aspects of PBTE, they represent major areas which deserve some attention. There has been, and continues to be, significant interest and activity in the improvement of instructor preparation in the United States through the use of PBTE concepts and curricula.

What is PBTE?

PBTE is a relatively new and alternative approach to teacher preparation. It is also an approach to teacher education in which the program is based on the competencies required of successful teachers, and one in which the instructor must not only obtain certain knowledge but is required to demonstrate ability to perform essential skills in an actual teaching situation.

PBTE is not a panacea for all of teacher education's ills, nor at this time is there much proof that PBTE is better or even as good as traditional or contemporary approaches to teacher education. Early indications, however, are that additional proof of its effectiveness will be forthcoming. Information about the impact of the National Center's PBTE curricula will be provided later in this paper.

PBTE and CBTE for all practical purposes are synonymous. Some individuals and countries prefer one term over the other, but both PBTE and CBTE programs endorse the same essential elements. Some persons prefer the CBTE term because it appears to stress the development of competencies which are the basis for both types of programs. Others prefer the PBTE term because it stresses the development of the teacher's ability to actually perform the specified competencies.

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[1]The terms instructor and teacher are used as synonymous terms in this paper.

There are five essential elements that serve to establish the operational framework for any PBTE (or CBTE) program. The essential elements[2] are:

- Competencies to be achieved are carefully identified, verified, and made public in advance.
- Criteria to be used in assessing achievement and the conditions under which achievement will be assessed, are explicitly stated and made public in advance.
- Assessment of competency takes the students' knowledge and attitudes into account but depends upon actual performance as the primary source of evidence.
- The instructional program provides for the individual development and evaluation of each of the competencies specified.
- Students progress through the instructional program at their own rate by demonstrating the attainment of specified competencies.

In addition to the essential elements, one also commonly finds several additional elements that might best be labeled "desirable characteristics" associated with most PBTE programs. The desirable characteristics may include any or all of the following elements:

- Instruction is individualized to the maximum extent possible.
- Learning experiences are guided by immediate feedback.
- Emphasis is on meeting exit requirements.
- Instruction is individually paced rather than time-based.
- Instruction is to a considerable extent field-centered.
- Instruction is often modularized and uses materials with both required and optional learning activities--to achieve flexibility and provide for various learning styles.
- The program as a whole is carefully planned and systematic.

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[2]The essential elements and desirable characteristics presented here are adapted from Achieving the Potential of Performance-Based Teacher Education Recommendations (Washington, DC: American Association of Colleges for Teacher Education, 1974).

Why PBTE?

During the 1960's and 1970's, there was widespread dissatisfaction with many general and vocational teacher education programs in the United States. This dissatisfaction was one of the major factors stimulating the PBTE movement. Other elements influencing the movement included the concern for increased accountability, an emphasis upon the use of performance objectives, and a strong desire to further individualize instruction. PBTE also was being advocated by many persons because of the following recognized needs:

1. The need for more competent and effective vocational instructors in many occupational areas. While there has been a surplus of some general education teachers, a shortage exists in several vocational service areas in many states.

2. The need for instructor training programs which are based on identified and verified competencies. While most teacher educators espouse the need for developing vocational curricula around the worker's job requirements, their own courses have rarely been based upon the teacher's actual job requirements.

3. The need for instructor evaluations which are performance rather than knowledge oriented. Teacher trainers have too often been satisfied with norm-referenced cognitive assessments which make the assumption that an instructor who knows about teaching will automatically be able to perform satisfactorily in the classroom and laboratory.

4. The need to provide instruction which can be tailored to the individual needs and interests of trainees. It has long been recognized that the learning process needs to be individualized to accommodate each students' needs. Although teacher educators have told instructors that they must individualize instruction for their students, their own classe. typically have been conducted in a large-group lockstep manner.

5. The need to provide instruction which allows for a variety of realistic learning experiences and options. Different students have different learning styles, hence we should provide for alternative learning experiences whenever possible.

6. The need for instruction which provides immediate and frequent feedback to the learner. The learner needs to know how well he or she is progressing toward achievement of the required competencies on a regular, almost daily, basis.

7. The need for instruction which holds both the student and instructor accountable. If both persons are important to the learning process as most would agree, then they obviously share responsibility for the learning that should occur.

8. The need for instruction which is both efficient and effective. Program effectiveness and efficiency needs to be enhanced by focusing on the real requirements of the job--those competencies essential for the instructor to learn in order to perform the teaching function.

It was apparent that minor modifications would not suffice to adequately prepare vocational instructors for their role. Many traditional practices needed to be displaced by a more scientific and systematic approach to professional development.

What Materials Were Developed?

The National Center and the U.S. Office of Education decided to develop a comprehensive set of curricular materials that would meet the training needs of vocational instructors and incorporate the essential elements of PBTE. The materials that resulted from this endeavor are products of a sustained research and development effort which has focused upon the actual preparation needed by persons who expect to teach with optimum effectiveness.

The National Center's curricular materials consist of one hundred (100) PBTE modules and related supportive materials. The categories of modules and the number of modules in each category follow:

Category	Number of Modules
A - Program Planning, Development, and Evaluation	11
B - Instructional Planning	6
C - Instructional Execution	29
D - Instructional Evaluation	6
E - Instructional Management	9
F - Guidance	5
G - School-Community Relations	10
H - Student Vocational Organizations	6
I - Professional Role and Development	8
J - Coordination of Cooperative Education	10

The supportive materials developed include: a Student Guide to Using Performance-Based Teacher Education Materials to help orient the module-taker to PBTE instruction; a Resource Person Guide to Using Performance-Based Teacher Education Materials to assist those persons helping preservice and/or

inservice teachers to use the modules; a comprehensive literature review entitled Performance-Based Teacher Education: The State of the Art--General Education and Vocational Education; and a Guide to the Implementation of Performance-Based Teacher Education. These materials are designed to help teacher educators, cooperating teachers, and government personnel involved in the design and implementation of PBTE programs.

Each module in the series of 100 PBTE modules focuses upon specific professional competencies needed by vocational teachers. The competencies upon which the modules are based were identified and verified through research as being important to vocational teaching at both the secondary and postsecondary levels of instruction. The modules are suitable for the preparation of teachers in all occupational areas.

Each module provides learning experiences that integrate theory and application; each culminates with criterion-referenced assessment of the teacher's performance of the specified competency. The materials are designed for use by individuals or groups of teachers working under the direction and with the assistance of teacher educators or other professional staff acting as resource persons.

The design of the materials provides considerable flexibility for planning and conducting performance-based preservice and inservice teacher preparation programs to meet a wide variety of individual needs and interests. The materials are intended for use by universities and colleges, state departments of education, postsecondary institutions, local education agencies, and others responsible for the professional development of vocational teachers.

How Were the Materials Developed?

The research and development of the National Center's PBTE materials involved two major phases: (1) identification of important teaching competencies (research base), and (2) development, testing, and revision of materials. These two developmental phases, which were followed by a dissemination phase, are shown in diagram form in Figure 1. While the research phase and the development and testing phase were carried out sequentially, many dissemination activities were carried out concurrently with the development and testing phase activities.

The Research Base

Under the sponsorship of the U.S. Office of Education, the National Center began work in 1967 on two research projects to determine the important competencies required of vocational teachers. Approximately 1,000 vocational teachers, supervisors, and teacher educators were involved in the identification and verification of 384 performance elements, or competencies, considered important for vocational teachers.

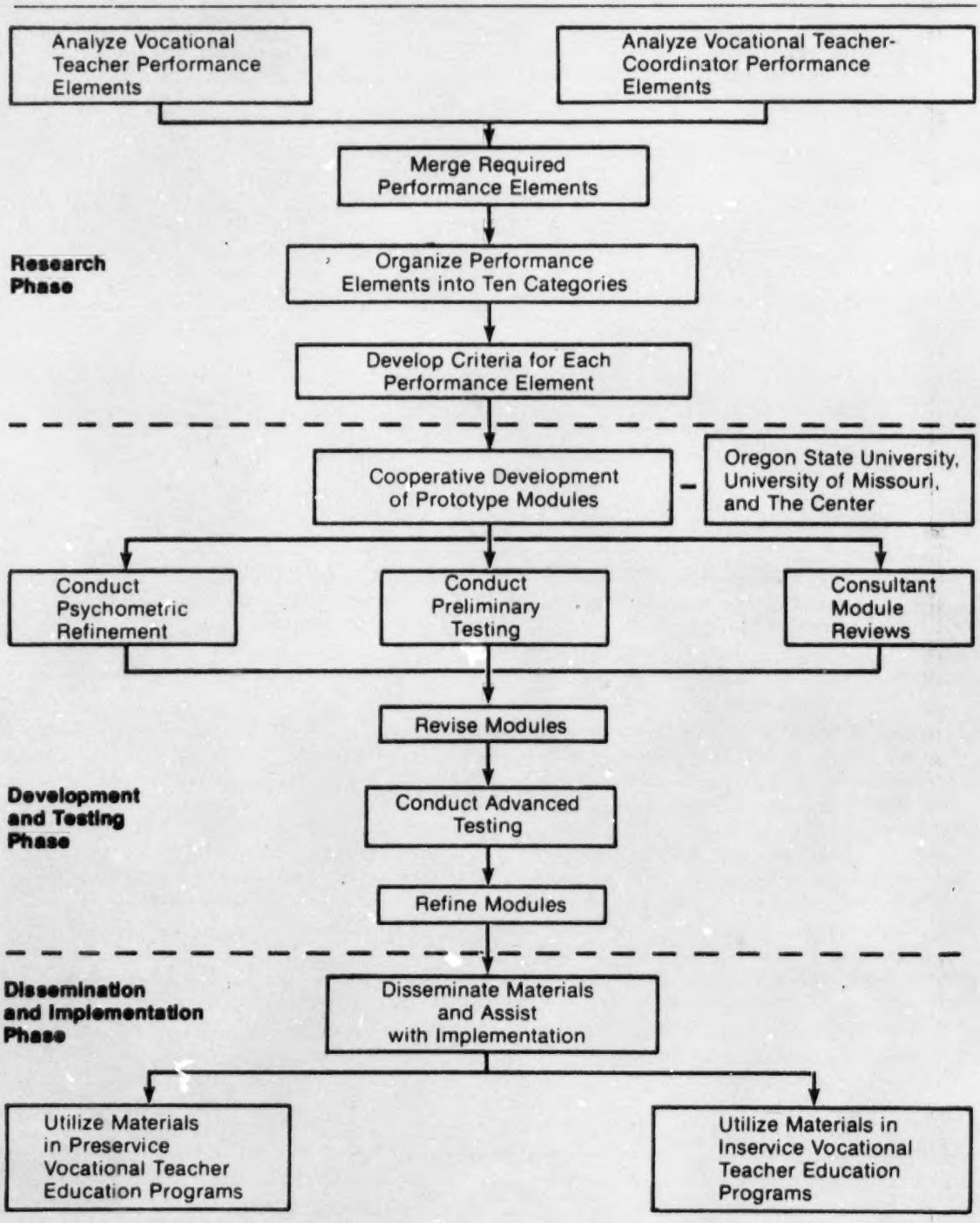
Analyze Vocational Teacher Performance Elements
Analyze Vocational Teacher-Coordinator Performance Elements
Merge Required Performance Elements
Research Phase
Organize Performance Elements into Ten Categories
Develop Criteria for Each Performance Element
Cooperative Development of Prototype Modules
Oregon State University, University of Missouri, and The Center
Conduct Psychometric Refinement
Conduct Preliminary Testing
Consultant Module Reviews
Revise Modules
Development and Testing Phase
Conduct Advanced Testing
Refine Modules
Dissemination and Implementation Phase
Disseminate Materials and Assist with Implementation
Utilize Materials in Preservice Vocational Teacher Education Programs
Utilize Materials in Inservice Vocational Teacher Education Programs

Figure 1. Phases of the PBTE Curricula Development

The first project of the research phase (1967-69) identified and verified the important competencies needed by teachers of conventional in-school vocational education programs in the several vocational service areas and at the secondary and postsecondary levels.

The second project of the research phase (1967-71) identified the important competencies needed by teacher-coordinators in cooperative vocational education programs. The findings of the two projects were then merged, resulting in a listing of 384 competencies clustered into ten categories representing major areas of vocational teacher responsibility.

Development of Curricular Materials

Following the identification of the 384 vocational teacher competencies, work was initiated in the summer of 1971 to develop the necessary curricular materials for implementing PBTE programs at the preservice and inservice levels for all vocational service areas.

The curricular materials are in the form of individualized learning packages, or modules, each of which has as its base one or more of the 384 competencies. By basing the modules on the identified competencies, there is a reasonable assurance that the objectives of the modules represent competencies actually needed by vocational teachers.

The module development process was structured to ensure maximum involvement of persons representing all vocational service areas and actively engaged in vocational teacher preparation. Each module was originally developed in cooperation with vocational teacher education facilities at Oregon State University, Corvallis, and Univeristy of Missouri-Columbia. Some National Center staff worked on-site with writing teams representing the different service areas of each of these universities.

A specified system of development, review, and revision was followed by the writing teams at each of these sites during the initial module development. In this manner, a total of 123 prototype modules were developed. Following development of each module to the satisfaction of the faculty at the site, the module was then forwarded to the other site for review and critique by its faculty. Each module also underwent review and critique by National Center staff. Then a synthesis of all faculty and staff reviews was developed, and the module was revised by National Center staff. New combinations of the performance elements resulted in reducing the number of modules to 118.

Preliminary Testing and Revision

Initial testing of the PBTE materials was carried out during 1973-74 at Oregon State University, University of Missouri-Columbia, and Temple University. Each of the 118 modules was used by a minimum of ten preservice and/or inservice vocational teachers at one or more of the test sites. Reaction forms were completed by each student for each module used and by each faculty

member or resource person for each module they administered. In addition, in-depth taped interviews were conducted to clarify and gain additional feedback from students and resource persons for a sampling of the modules tested.

Concurrently, the California Testing Bureau of McGraw-Hill conducted psychometric refinement of the objectives and assessments of each of the 118 modules. Several individual modules and entire categories of modules were also reviewed and critiqued by independent consultants and subject matter experts during this phase of the project.

Using the inputs from students, resource persons, psychometric refinements, and consultant reviews, each of the modules underwent a major revision of content and format. The typical instruction sequence for National Center modules which reflects the revised format is illustrated in Figure 2. This major revision was initiated by National Center program staff during the summer of 1974 with completion occurring in the spring of 1976.

Advanced Testing of the PBTE Curricula

Initially, three advanced testing sites were selected and testing began during the winter of 1975. During the spring and summer of 1975, advanced testing was also initiated at four self-sponsored sites. In the fall, ten additional advanced test sites were added through U.S. Office of Education sponsorship of a National Institute for PBTE.

From 1975 through 1976, advanced testing of the materials was conducted at the 17 sites representing wide geographic areas and settings as well as several differing PBTE program structures. Feedback was gathered from each individual using the modules and from each resource person to further improve the materials and to document their effectiveness. More than 2,500 preservice and inservice teachers and 250 teacher educators and other resource persons participated in the testing and provided feedback to the National Center. This user feedback provided information concerning the characteristics of the user and how well the materials served his/her needs.

Advanced test data showed the modules generally to be highly effective in developing the specified competencies in both preservice and inservice training programs. Pre/post-estimates of teacher trainee performance showed increases in ability to perform the specified competency for each of the 100 modules. Furthermore, these increases were statistically significant at the .01 level of confidence for 98 of the 100 modules. Further, teacher trainee and teacher educator reactions regarding the quality and utility of the materials were highly positive.

Refinement, Publication, and Dissemination

The National Center completed an agreement for commercial publication of the PBTE materials in mid-1976. At that time, the publisher, American

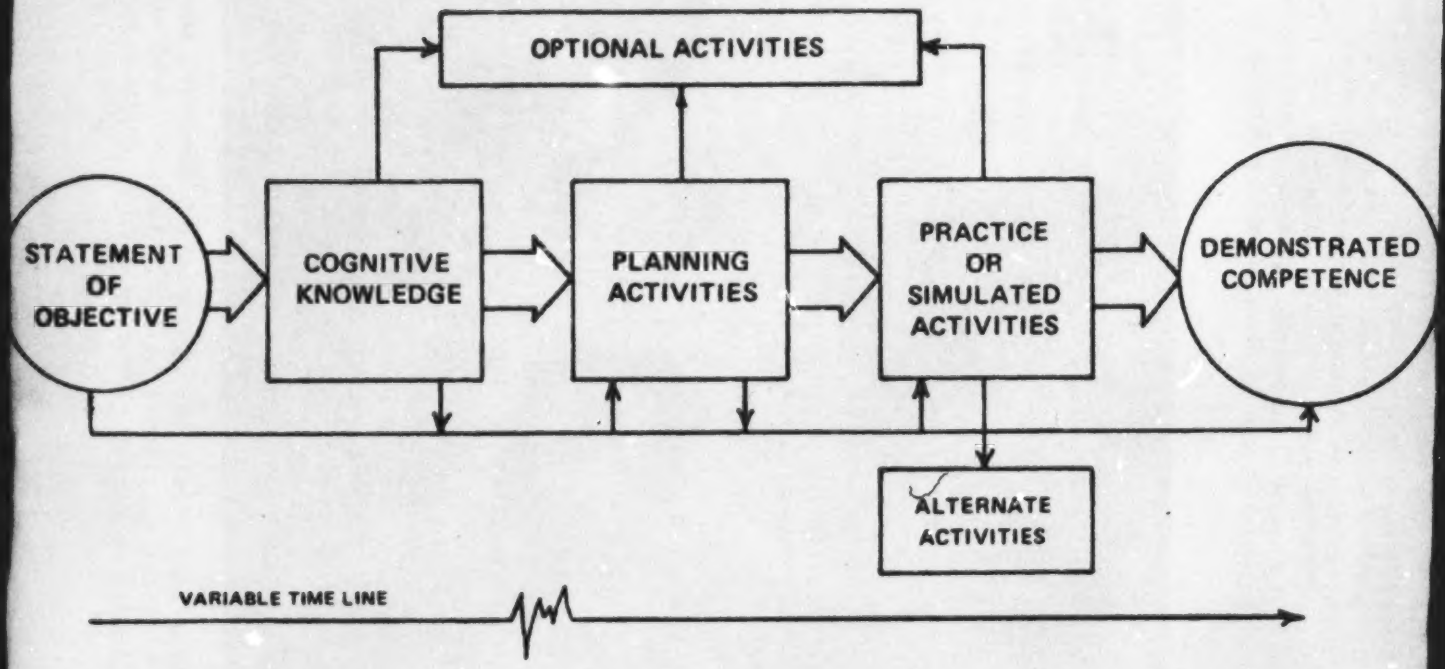

Figure 2. Typical Instructional Sequence for National Center Modules

Association for Vocational Instructional Materials (AAVIM), and National Center staff jointly determined the final format of the materials. Based upon the advanced testing feedback, few substantive changes were necessary. See Attachment A for the "Module Quality Review Checklist" which contains criteria used to evaluate the quality of each module and Attachment B for a summary list of the "Major Features of the National Center's PBTE Materials." Refined materials were delivered to the publisher from September 1976 through September 1977. The publisher initiated incremental release of published materials in March 1977, with release of the last materials occurring in summer 1978.

Joint dissemination activities have been and continue to be carried out by the National Center, the publisher, and through federal, state, and regional sponsors to provide orientation and training for effective implementation and use of the PBTE curricular materials. In a performance-based training program, the resource person (teacher educator, supervising teacher, instructional supervisor, staff development coordinator, etc.) has a unique and essential role to perform. This role, which includes the functions of serving as advisor, facilitator, and assessor, is very different from the traditional roles performed by teacher educators and staff development leaders. The National Center's field-testing and training experience with many different educational institutions repeatedly reinforces the need for the adequate training of PBTE users. Hence, both the developer and publisher strongly recommend that institutions planning to use these materials arrange for the provision of adequate training to ensure the most effective use of the materials.

How Are the Materials Being Used

Full scale implementation as well as partial implementation of the PBTE concepts and materials has occurred at many public and private agencies across the United States. Vocational education teachers, instructors, trainers, staff development coordinators, local and state supervisors, and many others involved in the professional preparation of persons for teaching roles at all levels are using the materials. From March 1977 through January 1980, more than 260,000 PBTE modules have been distributed. In addition, more than 1,350 different agencies and 250 individuals have purchased the modules, including approximately 990 educational agencies and 140 international agencies. The primary users have been colleges and universities which represent 59 percent of the total sales. Over 18 percent of all higher education institutions in the United States have bought the materials. All 50 states, five U.S. territories, 11 Canadian provinces, and 24 other foreign countries also have purchased the materials.

The materials are being used mainly by: (1) teacher education institutions concerned with preservice and inservice teacher preparation; and (2) private and public agencies concerned primarily with staff development or inservice training.

Teacher Education Use

As one might expect, the most extensive use of PBTE concepts and materials is occurring in the colleges and universities which have teacher preparation as one of their major responsibilities. Of the 590 educational agencies which have ordered the modules, 360 are colleges and universities. Some of these institutions use the materials primarily in their preservice programs, while others use them more in their inservice courses and workshops. Major use has occurred in what might be described as a "blending" approach whereby selected modules are substituted for specific units of a given course. Extensive use has also occurred in "total course substitution" approaches whereby one or more courses are taught in a performance-based manner using a cluster of modules as an alternative to lectures. In several institutions, all the professional preparation required of teachers is offered through a "total program conversion" to the use of PBTE concepts and materials. See Attachment C for a brief description of one such program in operation at the University of Central Florida.

Staff Development Use

The use of PBTE materials by organizations other than colleges and universities for staff development or inservice training represents 41 percent of total module sales. The major users in this category are:

- Public and private secondary schools
- Public and private postsecondary institutions (2-year)
- State education agencies
- Business, industry, and labor organizations
- Non-educational government agencies

In the secondary schools, the PBTE modules are primarily used for improving the skills of practicing teachers. In the 210 postsecondary institutions purchasing the materials, they are used in staff development programs run by the institution itself. Frequently, they are used with part-time as well as full-time instructors to help them acquire critical teacher "survival skills," and in some states to meet certification requirements. Most of the 50 state departments of education have purchased either sets of the modules for placement in area vocational school staff libraries and/or quantities of individual modules for use in local, regional, and state level teacher inservice education workshops. In addition to the educational agencies, more than 200 businesses, industries, and labor groups are using the modules as part of their instructor training programs. The materials have been purchased by such well-known companies as Caterpillar Tractor, General Electric, International Business Machines, Kodak, Mobil Oil, Sears and Roebuck, Union Carbide, and United Airlines. Among the non-educational government users are the U.S. military, state and federal corrections and law enforcement agencies, and the U.S. Department of Agriculture's forest and soil conservation services.

What Results Have Been Obtained

Educators are frequently asking questions such as: "What evidence is there that PBTE works any better than conventional teacher education and staff development programs"? "Why should we change to the PBTE approach unless there is significant evidence that it is better than what we are now doing?" These are fair and legitimate questions. While the research needed to answer those questions conclusively is complex, expensive, and fraught with difficulty, some answers are now becoming increasingly clear.

At this point, this paper will draw heavily on the independent impact evaluation research on the National Center's PBTE curricula recently completed by Kay Adams, Brenda MacKay, and Michael Patton.[3] An executive summary of the findings of that study is presented as Attachment D of this paper. The findings reported by Adams, et al., are based on an in-depth study of two universities that have fully operational PBTE programs, and on additional data collected through telephone interviews with 71 other persons representing programs using PBTE concepts and materials.

Three levels or types of effects were reported: (1) effects on the vocational teacher education programs, (2) effects on vocational teachers, and (3) effects on vocational education classrooms and students.

PBTE has been especially effective in changing teacher education programs. It has:

- Increased the accountability of teacher education programs.
- Increased instructors' access to vocational teacher certification by providing self-contained instruction especially useful in rural and/or isolated areas.
- Increased the flexibility of teacher education in terms of getting the right training to the right teacher at the right time.
- Increased the productivity of teacher education programs by shortening the time required to certify vocational teachers.
- Reduced the variability and added cohesiveness to the content of vocational teacher education curricula through standardizing the skills vocational teachers are required to master.
- Significantly changed the role of the university teacher from a university-based classroom lecturer to a field-based learning facilitator working with teachers on a small-group and one-to-one basis.

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[3]Adams, Kay A., Brenda MacKay, and Michael Q. Patton, The Impact of the National Center's Performance-Based Teacher Education Curriculum (Columbus, OH: The National Center for Research in Vocational Education, The Ohio State University, 1980).

PBTE has had an effect on vocational teachers. It has:

- Increased competency in teaching, especially in the areas of instructional planning, organizing content into units of instruction, student reinforcement, individualizing instruction, and student performance evaluation.
- Increased teachers' responsibility for their own learning and their ability to be self-evaluative.
- Increased the teachers' convenience in obtaining certification.
- Increased teachers' personal contact with university teaching faculty.
- Increased teachers' confidence in themselves because they know what they can do.

PBTE has had an effect on vocational education classrooms and students by contributing to:

- Improved communication between universities and local school districts.
- Increased use of competency-based techniques by vocational teachers with their own students because teachers teach the way they are taught.
- Improved performance of local school administrators in evaluating teachers.

Summary

The National Center's PBTE curricula have been widely adopted and have had a marked impact on vocational teacher education and staff development programs. The PBTE materials are being used by more institutions than any other product produced by the National Center for Research in Vocational Education.

It is believed that the availability of high quality, research-based, and field-tested materials coupled with the logical promise of the essential elements and desired characteristics of PBTE programs, have significantly increased the responsiveness of teacher and instructor training programs to the needs of their clientele. It is known that the cooperative development procedures, extensive field testing, and the numerous institutional, state, regional, and national workshops conducted to train resource persons contributedly significantly to the dissemination of the concepts and materials and implementation of PBTE programs.

There is considerable evidence that PBTE programs are having a long-term impact on improving the quality and competence of vocational teachers and

instructors. By providing a flexible and more individualized program, PBTE has enabled teachers to progress at their own best rate to achieve mastery of the desired competencies. It has also increased the productivity of some teacher education programs by shortening the time required for certification. The PBTE movement has also added emphasis to a competency-based approach for both students and teachers. The two universities studied had helped spread PBTE to other universities in their state. Additionally, state and local administrators view PBTE as a key step to implementing competency-based student instruction. As one administrator noted, "If you're going to do performance-based instruction with students, you must get teachers committed first."

Since the National Center's PBTE efforts have met with success, it will not surprise anyone to learn that additional materials are being developed using the same basic research, development, and dissemination methodology. Work in performance-based teacher education is continuing through the development of additional modules that address the competencies needed by teachers who are working with students with special needs, and who are implementing competency-based education in their classrooms. A multi-state consortium effort is also supporting the development of competency-based modules designed specifically for the preparation of local administrators of secondary and postsecondary vocational programs. Planning has also been initiated for developing performance-based materials for counselors, supervisors, and other vocational education professionals.

PBTE concepts and materials provide a promising alternative to the more traditional methods of instructor training. Perhaps Smith and Nagel summarized the feelings of many PBTE/CBTE advocates best when they stated, "Anyone who has used a CBTE approach effectively can never return to a traditional way of teaching."[4]

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[4]Smith, Hayden R. and Thomas S. Nagel. "From Traditional to Competency-Based Teacher Education--and Never Back Again." Phi Delta Kappan. November 1979, pp. 194-195.

ATTACHMENT A

MODULE QUALITY REVIEW CHECKLIST

MODULE TITLE: _____

MODULE NO.: _____ REVIEWED BY: _____

Language

1.	New terminology is defined in the introduction or information sheets.	YES	NO
2.	The terminology is consistent throughout.	YES	NO
3.	The internal directions are simply and clearly stated, and complete.	YES	NO
4.	The performance objectives are stated in observable terms.	YES	NO
5.	The procedures describe the options available to the learner in completing the module.	YES	NO
6.	The activities clarify what the performance is, how to do it, and why it is necessary.	YES	NO
7.	The language is lively and interesting; not mechanical or pedantic.	YES	NO
8.	The language is geared to the level of an average reader in the target audience.	YES	NO

Learning Experiences

1.	Learning experiences are sequenced logically.	YES	NO
2.	Learning experiences do not overlap.	YES	NO
3.	Learning experiences lead directly to competency in the performance objectives.	YES	NO
4.	All required readings contribute directly to attaining the objectives.	YES	NO
5.	All required activities contribute directly to attaining the objectives.	YES	NO
6.	When an activity may be difficult to implement, alternate ways of completing the activity are provided.	YES	NO
7.	Optional learning activities are provided to give depth, variety, and flexibility to the learning experiences.	YES	NO
8.	A range of activities is provided to accommodate students of different abilities, needs, and interests.	YES	NO
9.	A range of activities is provided to allow for both individual and group work.	YES	NO
10.	Role playing activities include role descriptions and situations to guide anyone playing a role outside his/her own frame of reference.	YES	NO
11.	The learning activities are varied and interesting, with a minimum of repetition from one learning experience to another.	YES	NO
12.	Feedback is provided at the end of every learning experience.	YES	NO

Information Sheets (Criteria in the "Language" section apply here.)

1.	The module is self-contained, if at all possible.	YES	NO
2.	Information sheets contain up-to-date and accurate information.	YES	NO
3.	Information sheets are concrete and tangible; not vague generalities or lists of criteria; they tell "how to do it."	YES	NO
4.	Information sheets are relevant to vocational education, with examples drawn from various service areas of vocational education.	YES	NO
5.	Selected pages of outside resources are used as enrichment and/or reinforcement activities.	YES	NO
6.	Outside resources are not more than 10 years old (unless they are of exceptional value).	YES	NO
7.	Readings (information sheets and outside references) are complete in that they provide the learner with all information needed to complete the module.	YES	NO
8.	Outside references are standard enough that they should be readily available to any module user.	YES	NO

Self-Checks, Model Answers, Checklists

1.	Self-checks are thought provoking and require application of information; not rote responses.	YES	NO
2.	Self-checks comprehensively reflect the information provided in the learning experience.	YES	NO

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3. Self-checks are not obvious; they require an understanding of the knowledge important to achieving the competency. YES NO
4. Model answers are provided to reinforce learning and clarify concepts. YES NO
5. Checklists and assessment forms are stated in observable, performance terms. YES NO
6. Checklists include all the criteria necessary for successful performance. YES NO
7. Checklists actually assess the learner's progress toward the objective. YES NO
8. Checklists are of reasonable length and complexity, with no more than 25-30 items. YES NO
9. Alternatives to peer evaluation are provided for those learners who cannot arrange to work with peers. YES NO
10. Each feedback device includes a stated level of performance. YES NO
11. Evaluations provide for recycling if the level of performance is not met. YES NO

Media

1. The media is applicable to all vocational service areas. YES NO
2. The media illustrates, clarifies, reinforces, or extends the concepts introduced in the module; it doesn't simply repeat them. YES NO
3. The media is realistec, i.e., the teacher, students, and real school setting are believable. YES NO
4. The length of the media is reasonable (10 to 20 minutes). YES NO
5. The media is interesting visually/aurally. YES NO
6. The media is clear visually/aurally. YES NO
7. If the media includes an exemplary instructor, the instructor:
   a. relates well with students. YES NO
   b. uses student feedback. YES NO
   c. uses media or teaching aids where appropriate. YES NO
   d. presents information geared to the needs of the students. YES NO
   e. teaches on the basis of up-to-date learning theory. YES NO
8. The media is free from racial and sex bias. YES NO
9. The media is lively and action-oriented. YES NO
10. The information is presented in a logical sequence. YES NO

Overall

1. The module delivers on the objectives. YES NO
2. The module meets format specifications. YES NO
3. The module is internally consistent (objectives, activities, feedback devices, etc. do not contradict each other, directly or indirectly) YES NO
4. No learning experience other than the final learning experience requires performance in an actual school situation. YES NO
5. Opportunity is provided for practicing any performance which must be executed in the real world. YES NO
6. The final learning experience requires performance in an actual school situation. YES NO
7. The learning experiences are realistic; i.e., they do not require an unreasonable amount of prior knowledge or of time on the part of the learner. YES NO
8. Implementation of the module is feasible and practical; i.e., it does not require an unreasonable amount of the resource person's time. YES NO
9. Learning activities, information sheets, case studies, resources, etc. provide equitable representation of the various service areas in vocational education. YES NO
10. An introductory statement is provided which motivates the student by explaining why the competency is needed, not simply what the competency consists of. YES NO
11. An introductory statement is provided which places the module in a frame of reference with other modules in the category, and with the broad theory of vocational education. YES NO
12. All necessary or desirable prerequisite competencies are listed. YES NO

ATTACHMENT B

MAJOR FEATURES OF THE NATIONAL CENTER'S PBTE CURRICULA

1. EACH MODULE FOCUSES UPON ONE OR MORE VERIFIED IMPORTANT VOCATIONAL TEACHER COMPETENCIES

2. MODULAR DESIGN PROVIDES MAXIMUM FLEXIBILITY FOR DESIGNING INDIVIDUALIZED PROGRAMS BASED ON NEEDS

3. DESIGN OF LEARNING EXPERIENCES ALLOWS FOR INDIVIDUAL, SMALL OR LARGE GROUP INSTRUCTION

4. ALL MODULES ARE SUITABLE FOR PRESERVICE AND/OR INSERVICE USE

5. ALL MODULES INTEGRATE THEORY AND PRACTICE

6. MOST MODULES ARE SELF-CONTAINED

7. RECOMMENDED OPTIONAL OUTSIDE RESOURCES INCLUDE PRINTED AND MULTI-MEDIA MATERIALS

8. DESIGN PERMITS ADAPTATION THROUGH USE OF SITUATION SPECIFIC LOCAL MATERIALS

9. EACH MODULE CULMINATES WITH EVALUATION OF THE SPECIFIED COMPETENCY IN AN ACTUAL TEACHING SITUATION

ATTACHMENT C

THE PBTE PROGRAM AT THE UNIVERSITY OF CENTRAL FLORIDA

By Glen Fardig, PBTE Project Director

Introduction

At the University of Central Florida the goal is to develop a fully functioning performance-based vocational teacher education program...one that incorporates all the basic principles and best practices of PBTE. While much progress has already been made toward this end, program development is seen as a long-term and continuing effort. As the program grows and matures, it will be testing the limits of PBTE, probing its concepts, refining its methods, and solving the myriad practical problems of installation and management.

The Setting

The University of Central Florida (UCF) is a young and growing institution; one of nine universities in the state system of higher education. It is mandated to serve the needs of the entire central region of the state, which includes rapidly expanding urban areas as well as several sparsely populated rural counties. The present vocational teacher education program is comprised of trade and industrial and health occupations areas, while an expansion into home economics and industrial arts is anticipated. Preparation of business and office teachers is a separate program. Some 85 percent of those in the program are teachers on the job, recruited directly from business, industry, and service occupations for the teaching profession. They come to UCF for their initial certification, and for undergraduate and graduate degrees. Because of the considerable geographic area to be covered, instruction is delivered in four locations: the main campus, and three outlying resident centers.

Program Model

The UCF model for vocational teacher education is designed around groups of research-identified teaching competencies, selected and organized on the basis of their contribution to teacher success and proper sequence in fostering the teacher's professional growth. University professional education courses, called "Competency Clusters" each include a number of related competencies to be achieved. The cluster "Essential Teaching Skills," designed to help teachers survive in the profession, is the required first experience, but other clusters may be completed in any order, depending on the individual teacher's needs. In the undergraduate program, for example, there are eight clusters, which include a total of 48 required and 11 elective competencies.

The program is conceived as two partially concurrent stages: (1) the teacher achieves proficiency in all program competencies through the cognitive and practice level within a university seminar setting, and (2) the teacher demonstrates final competence in selected competencies in an actual school situation. Designated required competencies are to be achieved by every

teacher on the basis of individual needs, interests, and career goals. In the Advanced Certificate and Graduate Program, all clusters are of variable credit, with the teacher building an entirely personalized program of specific competencies. Criterion-based grades of A, B, or C are awarded to designate levels of teacher achievement, but lower levels of performance are not recorded, nor is credit given. Teachers may progress through a cluster at their own best rate, and may "test out" of a competency by demonstrating proficiency and meeting final assessment criteria.

Instruction

There are three basic elements in the instructional program: the PBTE instructional module, seminar sessions devoted to each module, and individualized instruction and counseling. Mainstays of instruction are the Ohio State PBTE Modules though some additional modules unique to Florida's needs are being developed by UCF project staff. The modules are used just as designed, with readings, teacher feedback, simulations, practice, and final performance all included. The UCF program involves none of the typical university instructional devices of quizzes, term papers, book reports, or final examinations.

The weekly cluster seminar is vital to the achievement of the teacher, and the success of the program. Scheduled in advance, each seminar focuses on one specific module and its inherent competencies. Attendance is expected. In the seminar, the teacher educator/resource person may provide enriched or situation-specific materials, clarify ideas, answer questions, bring in additional resources, and/or observe and assess practice performances. Individual conferences are also held as needed to help teachers overcome specific obstacles to competency achievement.

Assessment

Teacher assessment takes place in two phases; in the seminar and in an actual school situation. As teachers work to achieve a competency within the seminar setting, they present a specified performance (e.g., demonstrate a manipulative skill to a group of peers) or produce a specified product (e.g., develop a safety handbook for an occupational area) appropriate to the competency. The results are assessed by the resource person using checklist criteria known to the teacher. The product or performance must reach the "Good" or "Excellent" level, otherwise the teacher is recycled until that level is achieved.

Later, at a time designated by the teacher, the teacher demonstrates the competency in an actual school situation, usually involving his/her own students and class setting. Assessment of the performance is done by school personnel (e.g., dean of instruction, area supervisor, instructional specialist) serving as field resource persons, with training and supervision provided by the university. In the undergraduate degree program, each of 33 designated teaching competencies must be performed according to the criteria in the module's Teacher Performance Assessment Form before 12 quarter hours of field experience credit is awarded and the teacher recommended for certification.

Summary

Even in its early stages of development, benefits of the UCF PBTE program are beginning to become evident. It allows, in a way the conventional program could not, for the delivery of the right instructional program, at the right time in the teacher's professional growth, and at the right place, available as needed. Because the modules are basically self-contained, the program can be brought almost anywhere. Because the program is based on teaching skills, vocational teachers find it relevant, immediately applicable, and directly contributing to their success. Because it is constructed of the relatively small building blocks of competencies, the program is flexible, current, and readily individualized and personalized. The UCF model appears to be a feasible and practical one, transportable and adaptable to a wide range of university and field-based settings.

ATTACHMENT D

EXECUTIVE SUMMARY:

THE IMPACT OF THE NATIONAL CENTER'S PERFORMANCE-BASED TEACHER EDUCATION CURRICULUM

By Kay A. Adams, Brenda MacKay, and Michael Q. Patton

The National Center's Performance-Based Teacher Education (PBTE) curriculum has been widely adopted and had marked impact on vocational teacher education programs. Many PBTE programs have been implemented using the National Center's 100 modules and support documents. In January 1980, two exemplary sites using PBTE, Temple University in Philadelphia, Pennsylvania and the University of Central Florida in Orlando, Florida were studied in depth. Additional data were collected through telephone interviews and surveys covering 71 PBTE programs and examining product distribution records.

Distribution

From March 1977 through January 1980, more than 260,000 PBTE modules have been distributed, constituting over half a million dollars in sales. More than 1,350 different agencies and 250 individuals have purchased modules including approximately 990 educational agencies and 140 international agencies. The primary purchasers have been colleges and universities which represent 59 percent of the total dollar sales. Over 18 percent of all higher education institutions in the United States have purchased PBTE. All 50 states, five U.S. territories, 11 Canadian provinces, and 24 other foreign countries have purchased modules. Based on enrollment data from 29 educational agencies, an average of 60 teachers are enrolled per PBTE program on a yearly basis. Since 990 educational agencies have purchased PBTE modules, a rough estimate of 59,000 vocational education teachers have used PBTE modules.

Use

Full scale implementation as well as creative adaptations of PBTE are occurring at many agencies across the nation. Of the 990 educational agencies which have purchased PBTE modules, 360 are universities, 330 are secondary schools, 210 are postsecondary institutions, and 90 are state agencies. At colleges and universities, PBTE is used for preservice and inservice vocational teacher education programs. PBTE is being used to train teachers in agricultural education, business and office education, distributive education, health education, home economics education, industrial arts, technical education, and trade and industrial education. At secondary schools, PBTE modules are used for inservice programs for practicing teachers. At postsecondary institutions, there is an increasing use of the PBTE modules for staff development programs, most frequently as part of a comprehensive personnel evaluation and development system. In addition to education agencies, over 220 non-education agencies such as Caterpillar Tractor Company, IBM, and Union

Carbide are using the PBTE modules, most frequently as part of company training programs for improving instructional techniques.

Effects

Three levels of effects of PBTE were investigated: (1) effects on vocational teacher education programs; (2) effects on vocational teachers; and (3) effects on vocational education classrooms and students.

Effects on Teacher Education Programs

Based on in-depth interviews with 45 college and university administrators and faculty, it was found that PBTE precipitated significant changes in many vocational teacher education programs. In a period of declining need for secondary teachers, the National Center's PBTE curricula has helped university vocational education departments survive crises of funding cutbacks and faculty retrenchment. Because PBTE lends itself to an individualized approach, universities can provide field-based programs to larger service areas. PBTE made it possible for universities to attract community support, receive state funds for PBTE program development, and maintain enrollment. PBTE has: (1) increased teachers' access to vocational teacher certification by providing self-contained instruction, especially useful in rural and isolated areas; (2) increased flexibility in getting help to new teachers immediately whenever they are hired; (3) increased productivity of teacher education programs by shortening the time required to certify vocational teachers and lowering costs by using differentiated staffing; (4) reduced variability and increased accountability of vocational teacher education curricula through standardizing the skills vocational teachers are required to master; and, (5) significantly changed the role of the university teacher from a classroom lecturer to a learning facilitator, frequently working with students on a one-to-one basis.

Effects on Teachers

Based on in-depth interviews with 40 vocational education teachers and local school administrators, there is evidence that PBTE is having long-term impact on improving the caliber of vocational education teachers especially in the areas of instructional planning, organizing instruction, student reinforcement, individualizing instruction, and student evaluation. There is also evidence that PBTE increases teachers' ability to be self-evaluative and improves their confidence in themselves as teachers.

Effects on Classrooms and Students

PBTE also has contributed directly to vocational education classrooms. In an era of increased emphasis on basic skills and competencies, PBTE has added impetus to the movement toward competency-based instruction for all

vocational education students. As one administrator noted, "If you're going to do competency-based instruction with students, you must get teachers committed first." PBTE has (1) increased the use of competency-based techniques with students because teachers teach the way they are taught, and (2) improved the performance of local school administrators in evaluating teachers.

Appraisal

In the course of interviews with program staff, teacher educators, teachers, and local administrators, respondents were given the opportunity to assess the strengths and weaknesses of the PBTE materials. The most common reaction to the PBTE materials is a healthy respect for the technical quality of the modules themselves and the rigorous process that was used for their development. The strengths identified by various users were that PBTE materials are self-contained, modularized, performance-based, and individualized.

As expected, some people liked the curricula materials more than others, as no materials are applicable to everyone. However, it is important to note that some of the criticisms directed at the modules are really criticisms of the concept of performance-based teacher education. With this caveat, some weaknesses identified by various users are that PBTE reduces individuality, has limited emphasis on the affective domain, and has the potential for misuse.

As a whole, respondents felt that the strengths of the PBTE modules far outweighed any weaknesses.

Conclusions

The following conclusions can be drawn about the distribution, use, and effects of the PBTE curricula: (1) it is the most widely distributed product ever developed by the National Center for Research in Vocational Education, (2) it is being used by more institutions than any other product developed by the National Center, (3) it has had significant impact on vocational teacher education, (4) it appears to be having a long-term impact on improving the caliber of vocational education teachers, and (5) it is providing impetus to the movement toward performance-based instruction for all vocational education students.